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# PERFORM-VK

Ultimate Mic Stand-Mount Vocal Processor for Studio-Quality Sound with Expandable Effects and Keyboard I/O

## User Manual




TC·HELICON

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## EN Important Safety Instructions

**CAUTION**
RISK OF ELECTRIC SHOCK!
DO NOT OPEN!
**ATTENTION**
RISQUE D'ÉLECTROCUTION !
NE PAS OUVRIR !

Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality professional speaker cables with ¼" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

**Caution**
To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.

**Caution**
To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.

**Caution**
These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

**1.** Read these instructions.

**2.** Keep these instructions.

**3.** Heed all warnings.

**4.** Follow all instructions.

**5.** Do not use this apparatus near water.

**6.** Clean only with dry cloth.

**7.** Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

**8.** Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

**9.** Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

**10.** Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

**11.** Use only attachments/accessories specified by the manufacturer.



**12.** Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

**13.** Unplug this apparatus during lightning storms or when unused for long periods of time.

**14.** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**15.** The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.

**16.** Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



**17.** Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service.

**18.** Do not install in a confined space, such as a book case or similar unit.

**19.** Do not place naked flame sources, such as lighted candles, on the apparatus.

**20.** Please keep the environmental aspects of battery disposal in mind. Batteries must be disposed-of at a battery collection point.

**21.** Use this apparatus in tropical and/or moderate climates.

## LEGAL DISCLAIMER

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## LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding MUSIC Group's Limited Warranty, please see complete details online at music-group.com/warranty.

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# Introduction

Thank you for purchasing PERFORM-VK!

Your new mic stand-mounted vocal processor opens up a world of new performance opportunities.

Starting with our Adaptive Tone (automatic EQ, De-Essing, Gating and Compression), your voice will punch through the mix and sound great in any environment.

Add studio-quality Reverb, Harmony and Echo to the party and you'll easily craft eardrum pleasing vocal effects that are perfectly suited to your song.

With the addition of "beamable" presets you can expand the sonic capabilities of PERFORM-VK and include up to four more vocal effects!

Anti-Feedback tames the annoying high pitched squeals we've all experienced at live shows and keeps your performance sounding its very best.

Our global Pitch Correction gently guides your voice to the nearest note, ensuring that your pitches are spot on.

The Guide feature lets you see your vocal pitches in real time, letting you know when you're accurate and when you might be sharp or flat. It's a great tool for both live and rehearsal.

Audio and MIDI inputs for your keyboard give you a choice of methods to guide key and scale for harmony voices and HardTune.

# Read the Quick Start!

We'll assume that you read the Quick Start Guide that came in the box, hooked everything up, and that you're able to sing and play through the product. If you haven't made it that far, please read the Quick Start Guide now and come back to this manual when you're set up. Don't worry, we'll wait.

# Update Your Device!

It is HIGHLY recommended that you update the firmware on your PERFORM-VK before first use. "Beaming" presets from the app will not function without the update.

To update your firmware, you'll need both a USB driver (PC only) and our VoiceSupport 2 program. Both can be found at tc-helicon.com/products/perform-vk/support/

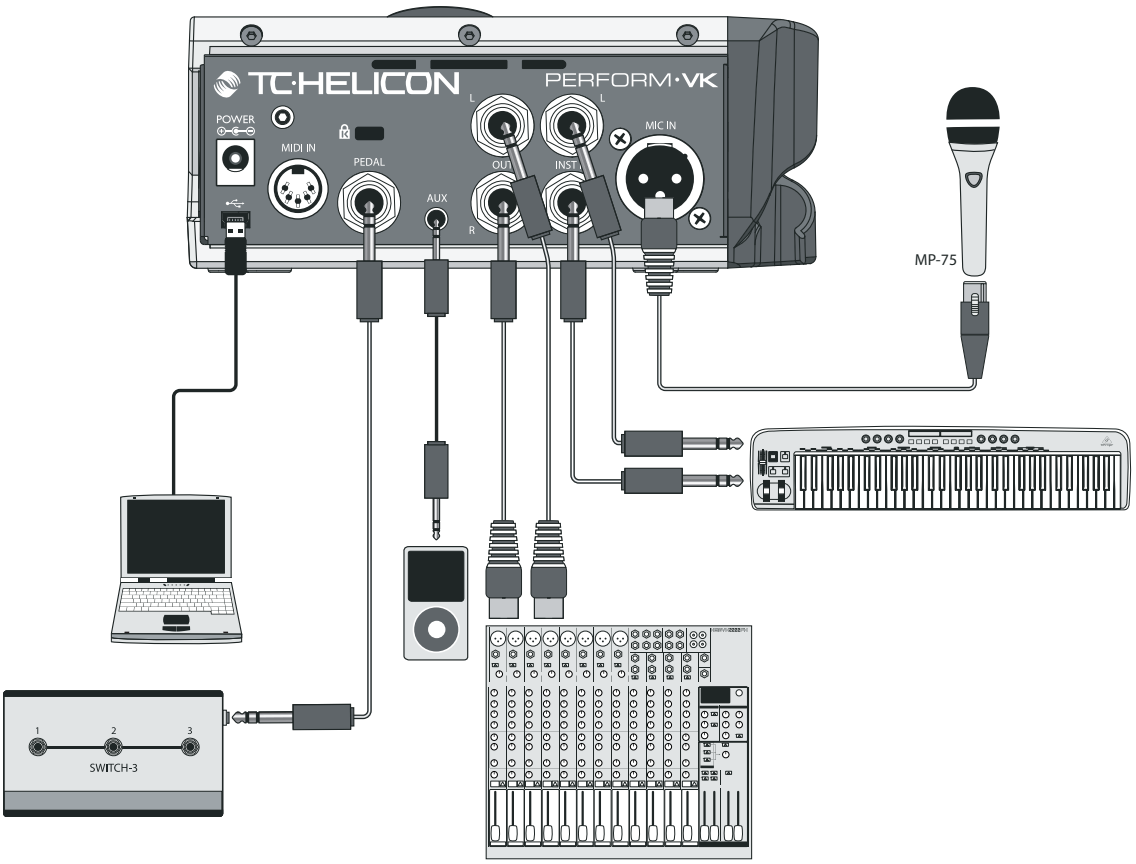
### PC Users

1. Download both the USB driver and VoiceSupport 2
2. Install the USB driver (restart if prompted)
3. Install VoiceSupport 2 (restart if prompted)
4. Connect your Perform-VK to your computer with the supplied USB cable
5. Power up Perform-VK
6. Start VoiceSupport 2
7. Follow the prompts to update your firmware

### Mac Users

You will not need the USB driver. Download VoiceSupport 2 and follow steps 3-7 above.

# Connection Diagram



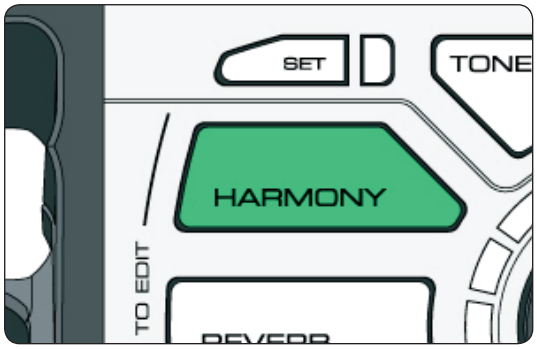
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# Effects

There are three effects available to you in PERFORM-VK and up to four more which are accessed via beamed presets.

### Harmony (onboard)

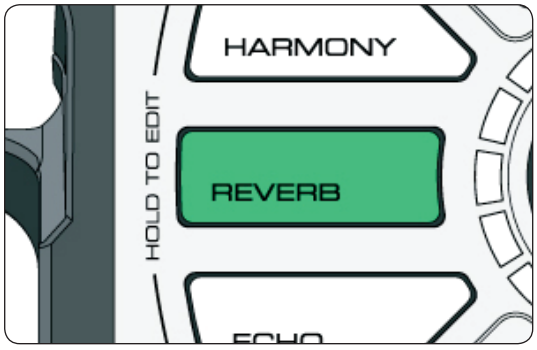
Additional voices, created from copies of your own voice, provide harmony as your own personal backup singers. Chord information is captured via the instrument input(s), MIDI or Aux and used to pick the correct key and scale for your song.




We can also use a combination of the built-in RoomSense microphone and music coming into the AUX input to automatically pick the right key/scale for the harmony voices. You'll need to have a chorded instrument near the RoomSense mic and/or music with chord information coming into the AUX input for this to work.

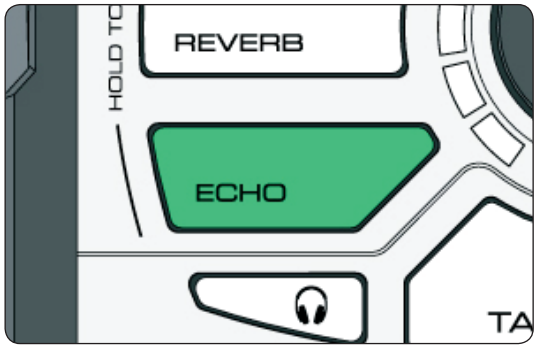
### Reverb (onboard)

Reverb creates a simulated physical space for your voice. It can be a small space, like a shower (where everyone's best singing takes place), or something as big as a concert hall. It's common to use a smaller (shorter) Reverb for faster songs and a larger (longer) Reverb for slower ones.




### Echo (onboard)

Otherwise known as "Delay", echo effects repeat your voice back to you in various ways and amounts, simulating the effect shouting into a mountain range or very large space. Some Echoes can have effects applied to the "taps" or repeats of the echo, like Megaphone or Radio.




### Double (Beamable)

Simulates the classic "double tracked" studio sound that's common on recordings of all genres. Double can include Octave Up and Octave Down voices too.

### Megaphone (beamable)

Anything that filters or distorts your voice falls into the Megaphone category. You can sound like you're on an old radio or distort your voice for an edgy attack. Be careful with Megaphone effects when you've got a loud PA. We need to adjust EQ a lot to create these sounds, so they're a bit more prone to feedback than other effects.

### HardTune (beamable)

The name of this effect can be a bit misleading, because it covers both subtle and T-Pain™ style tuning. There are several styles to help you hit the pitch perfectly, but some sound much more natural than others. Conveniently enough, our natural style is called. . .well. . . natural. The Pop style covers the other end of the spectrum. HardTune requires key information to work correctly, so just like Harmony, you'll need a chorded instrument, MIDI or AUX input.

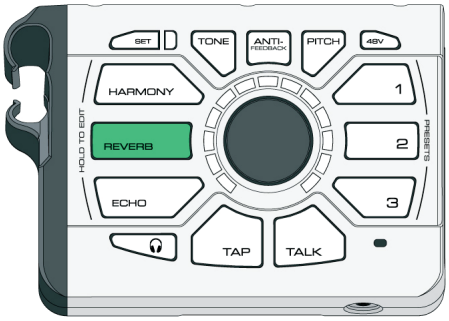
### µMod (beamable)

Here's where you'll find effects like Flanger, Chorus and other similar effects. These effects are typically used sparingly, but can add a great point of interest to your performance.

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# Turning Effects On and Off

To activate or deactivate an effect, simply tap the Reverb, Harmony or Echo button. The button will glow GREEN when active and WHITE when inactive.

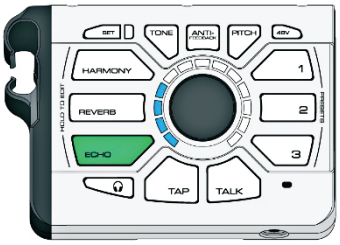


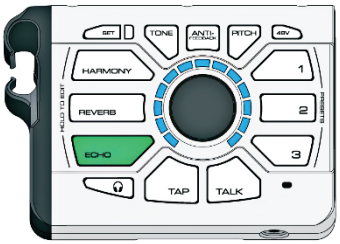

# Editing Effects

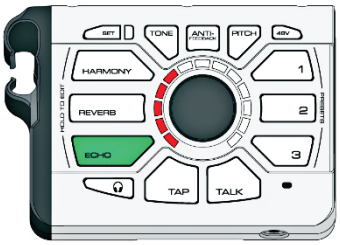
Don't like the Reverb, Harmony or Echo that you hear? You can adjust both the Level (volume) and Style (sound of the effect) to dial in just the right combination for your music.

To edit an effect, simply PRESS & HOLD the effect button. You'll know you're in EDIT mode because the LED ring surrounding the Control Knob will illuminate and the effect button will pulse.

The LED ring serves as both a Level and Style control. As you turn the knob, the LED segments will fill up, indicating that you're turning up the Level of the current style. When you completely fill the LED ring, the color will change, letting you know that you've now changed the Style of the effect. Continuing to turn the Control Knob will increase the Level of that Style.




Each effect has four different styles to choose from. Three of the styles are available "out of the box" and one is reserved for a Beamed preset Style (described next).

**Reverb**

- Room
- Club
- Hall
- Beamed preset Style

**Harmony**

- High
- Higher
- Low
- Lower
- High & Low
- High & Higher
- Higher & Lower
- Low & Lower
- Notes natural (spaced greens)
- Notes tight* (close greens)
- 8 channel natural (spaced rainbow)
- 8 channel tight* (close rainbow)

*The "tight" modes have humanization turned way down

**Echo**

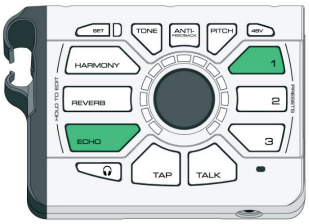
- ¼ Note
- ⅛ Note
- Slap
- Beamed preset Style

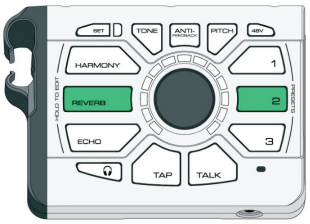
### Saving Changes

Any changes you make to an effect are stored in real time. There are no extra steps to take.

# Preset

A preset is a "complete sound" created by a combination of effects.




You'll notice that the active effects change between Preset 1 and Preset 2 in the images above. Presets can be configured however you like. The state (on/off), style and level for each effect in a preset can also be different from preset to preset.

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With 3 available presets, you might want to set up something like:

1. Fast songs
2. Slow songs
3. Death Metal Engelbert Humperdinck Covers

Try shorter reverb for fast songs.

Choose longer reverb and add a bit of echo for slower songs and/or ballads.

Crank up the levels and choose the craziest styles for a special effect preset.

# Importing (Beaming) a preset

PERFORM-VK also has the ability to "beam" or import a preset sound to each of the 1, 2, 3 buttons.

The imported sound can contain up to 7 effects:

- Harmony
- HardTune (pitch correction)
- Megaphone
- Modulation (chorus, flange etc.)
- Reverb
- Double
- Echo

Here's how to import a preset:

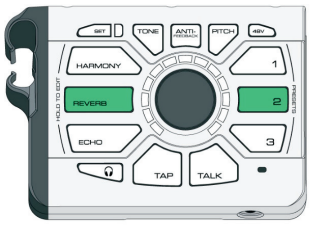
Use your smartphone and our preset app to "beam" a preset into PERFORM-VK. Simply press once on the preset location where you'd like your preset to live (1, 2 or 3). Then, follow the instructions in the app to send the preset data to your PERFORM-VK.

You can download the preset app here:
tc-helicon.com/products/perform-vk/support/

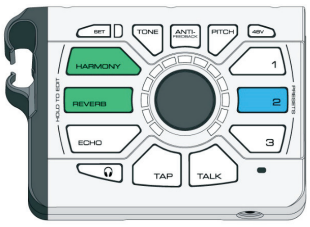
# HIT

Beamed presets can turn on one or more effects with a single button press. We call the additional effects "HIT". A common example of HIT is a preset that starts out with a simple Reverb, then adds Harmony via HIT.

The beamed preset's green light changes to blue to indicate that HIT is on. When a preset is beamed in, HIT is turned on by default.




HIT Off




HIT On

# Editing a Beamed preset

The process to change the sound of Reverb, Harmony and Echo within a beamed preset is exactly the same as the one you did without a beamed preset, with one small exception…

When you press/hold to edit the Reverb, Harmony, or Echo in a beamed preset, you'll notice that the LED ring is now white. That's the new Style imported by the preset. You can control the level of that Style, or change back to one of the "factory" Styles you've used before.

If you press and hold the 1, 2 or 3 buttons (whichever preset you're already using) you can make an adjustment to the sound of one of the other effects within the preset too.

Here's a little chart to show you what you can control, depending on which effects are contained in the preset:

| | Harmony | HardTune | Megaphone | µMod | Modifier |
|---|---|---|---|---|---|
| 1 | X | | | | Harmony Level |
| 2 | | X | | | HardTune Gender |
| 3 | | | X | | EQ Filter |
| 4 | | | | X | µMod Level |
| 5 | X | X | X | X | Harmony Level |
| 6 | | X | X | | HardTune Gender |
| 7 | | X | | X | µMod Level |
| 8 | | | X | X | µMod Level |

If you find the chart confusing as heck, here's an example:

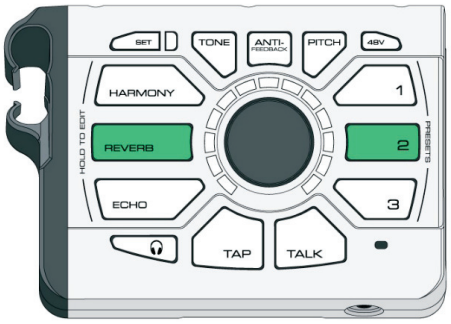
If the preset contains both Harmony and HardTune (number 5) the "Modifier" is Harmony Level. If the preset contains Megaphone and µMod (number 8) the modifier is for µMod level.

Make sense? Good. Moving on…

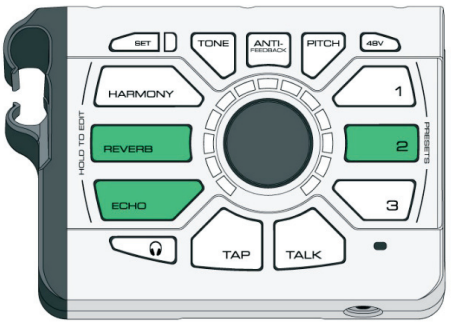
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# Editing HIT

HIT is controlled dynamically, which means you can make changes to each HIT "state" whenever you choose. Taking the previous example as a starting point, if you have Reverb on while HIT is off:




Then you turn Echo on:

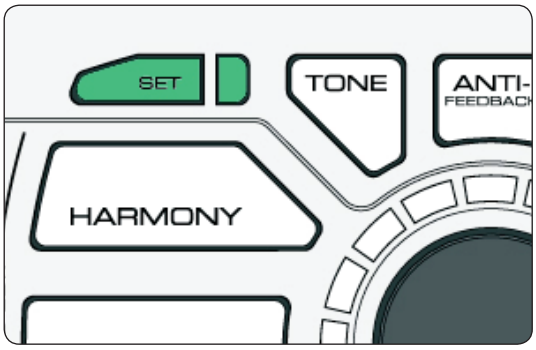



Now, Echo and Reverb will be active when HIT is OFF. You can make similar changes to the HIT ON state.

# Set

The Set button performs 2 functions: LED brightness, and gain setting.

Pressing the Set button once will bring up a green LED ring, indicating the brightness setting. The brightness can be adjusted, and this setting will be recalled across power cycles.




### Auto Gain

Holding the Set button until it turns red engages the automatic gain setting. While holding the Set button depressed, sing as loud as you can. This sets the gain to the proper level and ensures that you won't encounter clipping during your performance. Releasing the Set button will bring up a red LED ring that indicates the current gain setting.

At this point, you can let the gain setting window time out after a few seconds, which will enable the "nudge" function. If you happen to sing louder during the performance than you did while setting the gain, the nudge function will reduce the gain slightly to avoid clipping.

However, if you do not want to have the "nudge" function active, you can set the gain manually...

### Manual Gain

Hold the Set button until it turns red, then release it. The LED ring will turn red and you can now turn the knob to adjust the gain manually. Setting the gain this way will remove the "nudge" function, so you won't have to worry about any changes to this setting during your performance.

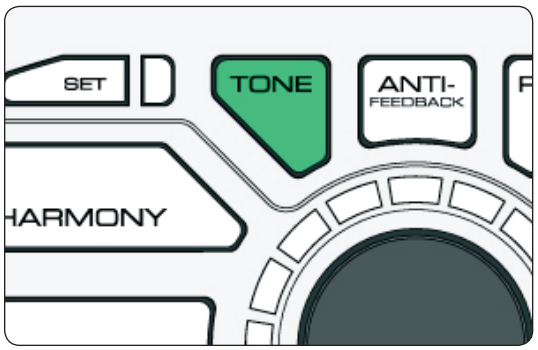
Note that pressing the Set button at all after setting the gain manually, even to adjust the brightness, will cause the "nudge" function to become active again.

The gain setting is not saved across power cycles, so performing a gain setting (either auto or manual) should be done each time you use your Perform VK.

# Tone

Tone automatically adds EQ (equalization), Compression, De-Ess and Gate to your overall vocal sound.

To activate Tone, press the button. White is OFF, Green is ON.




EQ helps to shape the tone of your voice to fit into a musical mix. We remove some of the low "mud" frequencies and boost the highs for "sparkle" or "air". Every recording you hear has some manner of EQ on the lead vocal (and pretty much everything else too).

Compression reduces the difference in volume between the loudest and quietest notes. This gives you a more even sound that can blend into the music better. It's almost unheard of for vocals to go uncompressed in modern music, both recorded and live.

De-Ess gets rid of harsh "S" sounds and makes them sound more pleasing to the human ear. De-Ess goes hand in hand with Compression, since Compression can make "S" sounds a bit more pronounced in the mix.

Gate "shuts off" an audio input when it falls below a certain volume.

This works great on things like drums where you want the drum hit to come through, but then have the mic silent in between hits.

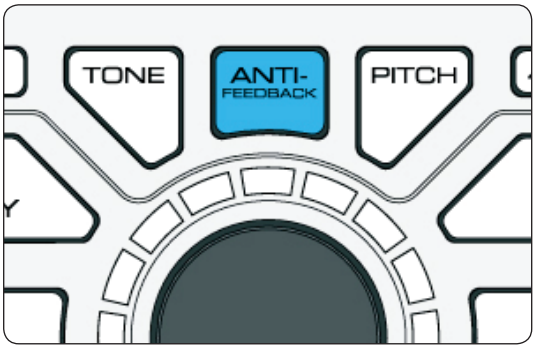
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## Anti-Feedback

Everyone loves that amazing squealing sound coming out of the speakers, right? Yeah, not so much.

Anti-Feedback automatically adapts to your environment and removes frequencies that can cause feedback. It's not a silver bullet, you still have to set up your gear with reasonable volume levels and avoid pointing the mic at the speakers, but Anti-Feedback can help when you're "on the edge" and getting some squealing here and there.

To activate Anti-Feedback, simply press the button. White is OFF, Blue is ON.



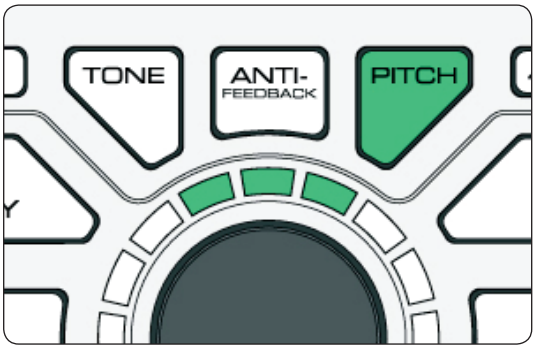

You'll see the LED light blue when it's working to get rid of offending frequencies. If the LED is flashing constantly, it's done all it can do and you'll have to look at the rest of your audio setup to reduce things further.

Here's a Craig's Corner video about feedback: youtube.com/watch?v=VlN1RJ4gcAo

## Pitch Correction

Nobody is perfect, so we give you the option to add a little bit of transparent pitch correction to your voice. It gently guides you to the nearest semi-tone when you sing.

To activate Pitch Correction, press the Pitch button. White is OFF, Green is ON.




An important note about Pitch Correction: it's normal to hear "phasing" between your head voice (not to be confused with "the voices" in your head) and the corrected voice coming from speakers or headphones. The collision of the two signals creates the phased effect. Your audience (or a recording) doesn't experience the sound.

You can actually use the phased sound to improve your pitch over time. The less of the phased sound you hear, the closer you are to perfect pitch.

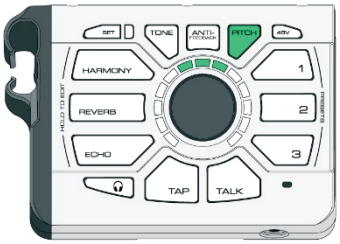
Here's a Craig's Corner video about Pitch Correction Phasing: youtube.com/watch?v=KWrEluiDXsA

## Pitch Guide

Sometimes it's nice to get some about your singing. With the Pitch Guide, you can see how close to the "true" note you are when you sing. It's great to know that you typically sing sharp or flat, or simply struggle with a particular note or two.

To activate the Pitch Guide, press and hold the Pitch button. To deactivate the Guide, press and hold again. When the pitch meter turns on, you'll see the LED ring light from red (at the bottom) to green (at the top). When the pitch meter turns off, the LED's will change from green to red.

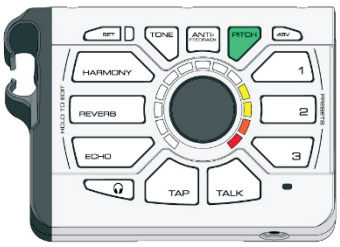
The pitch guide shows whether you're "on the note" (green LED's), "flat" (yellow/red LED's on the left hand side of the ring) or "sharp" (yellow/red LED's on the right hand side of the ring).




Correct Pitch




Flat Pitch

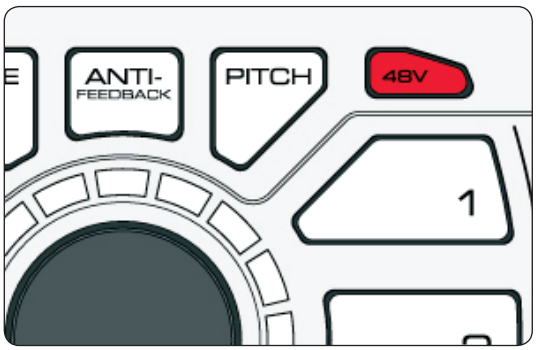



Sharp Pitch

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## +48V (Phantom Power)

If you have a condenser mic, it'll need power to function. You'll need to press and hold the 48V button for two seconds to turn phantom power on.




If you're not sure what kind of mic you have, but you don't hear any sound, it's ok to try 48V. It won't damage a dynamic microphone.

## Mic Control

To enable Mic Control, activate +48V.

Then, you'll need to select your Mic Control Mode. This is done by holding the +48V button and then pressing the 1, 2 or 3 button.

Button 1 sets Mic Control OFF. Use this when you have a condenser mic. If you have another Mic Control mode set, you may inadvertently activate buttons on the box as you sing.

Button 2 sets MP-75 mode. The Mic Control button cycles presets by default. You can change Mic Control behavior by holding the Mic Control button and then pressing the button on PERFORM-VK that you'd like to control. For example, if you hold the Mic Control then press the Reverb button, the MP-75 will now control on/off for Reverb. If you have an MP-76 connected but choose MP-75 mode, the "top" button on the MP-76 will function just like the MP-75 button. The other buttons will not do anything.

Button 3 sets MP-76 Mode. In this mode, the "Top" button controls Harmony. The "Left" button controls Preset 1. The "Right" button controls Preset 2. The "Bottom" button controls Preset 3.

MP-75 and MP-76 modes can control the following:

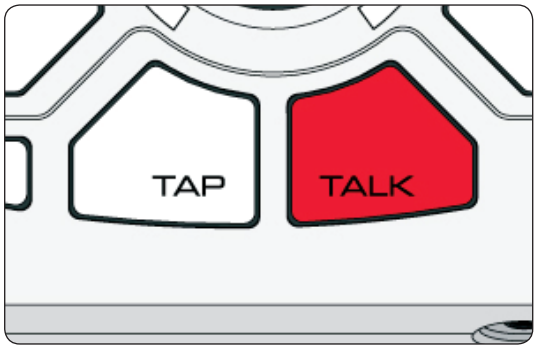
- Harmony
- Reverb
- Echo
- Tap Tempo
- Talk
- Preset 1
- Preset 2
- Preset 3
- Tone
- Anti-Feedback
- Pitch

## Talk

During a performance, especially between songs, you might want to speak with the audience. It's unlikely that you'll want all the effects on your voice while doing so. That's where the TALK button comes in. When active, Talk bypasses all of the effects in the box (except Tone) so that you can speak with the crowd and be heard clearly.

AUX signals are still passed to the XLR out in TALK mode.

To activate Talk, press the button. White is OFF, Red is ON.




## Lock/Mute

Press and HOLD the TALK button to enter Lock/Mute mode. All outputs, including XLR and Headphone, are muted and the front panel is disabled. This stops people from messing with your gear if you've stepped away.

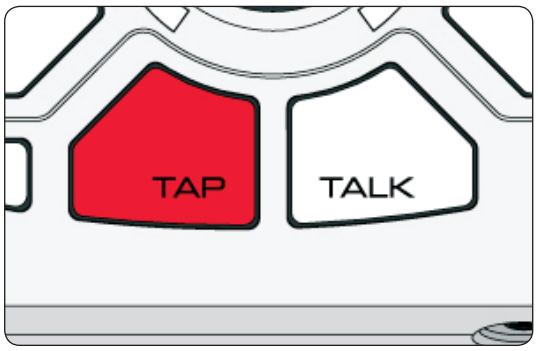
The TALK button will flash when in Lock/Mute mode.

To re-activate PERFORM-VK, press and HOLD the TALK button again.

## Tap (Tempo)

When pressed, this light flashes in time with your echo effects. You can re-tap the tempo at any time to sync up with your current song. Keep in mind that you can tap at half-time or double-time to make your echo sounds more flexible.

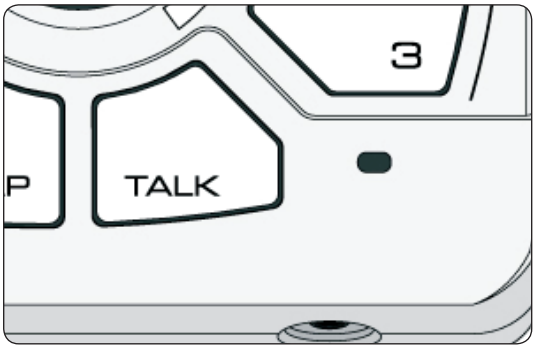
If you have an Echo selected but the Tap button is dark, the Echo style is a "slap" style that doesn't use tap tempo.



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## RoomSense

Did you notice that little hole on the front of the unit? It's a microphone!




It's there for two reasons:

1. If you beam in a preset that contains Harmony or HardTune effects and you're not using MIDI, keyboard audio or an Aux music source to guide key/scale, the mic will listen for chords in the room (like a nearby guitar) and try to figure out key and scale from that! Pretty cool.
    a. RoomSense is the most unpredictable of the key/scale trackers, since the room dynamics and chord information is most easily obscured using this mode. That said, it can be quite effective in specific situations, like placing the unit on top of an acoustic piano.
2. If you don't plug in a microphone and have headphones connected, you can sing into the onboard mic. It's a great way to practice with virtually no other equipment.
    a. If you're singing into the RoomSense mic, the Main Outputs *there isn't a Mic Out on VK* will be muted to prevent feedback.

## AUX Input




When you have a music player connected to the AUX jack, and nothing is connected to the MIDI or INST jacks, any incoming chord information from the AUX input will be used to determine key/scale for Harmony or HardTune. (When both the AUX and MIDI/INST jacks are used, the MIDI and INST connections take priority for detection of key/scale)

You will hear the AUX input mixed with your Mic input (vocals). If the AUX is too loud or too quiet, use the volume control on the music player to create the appropriate mix with your vocals.

Audio from the AUX input is slightly delayed from input to output so that we can better detect chords. This won't have any effect on music you're singing or playing along with, but it does mean this input isn't intended to support instruments that you'd play live. They'd feel strangely "laggy". Use the INST IN for live instruments.

If you do have a keyboard connected to the MIDI or INST IN jacks, they will be used for the key detection, and the AUX jack will not be delayed. This way the AUX input can still be used for a click track, drum machine, etc.

## Aux to Main Out

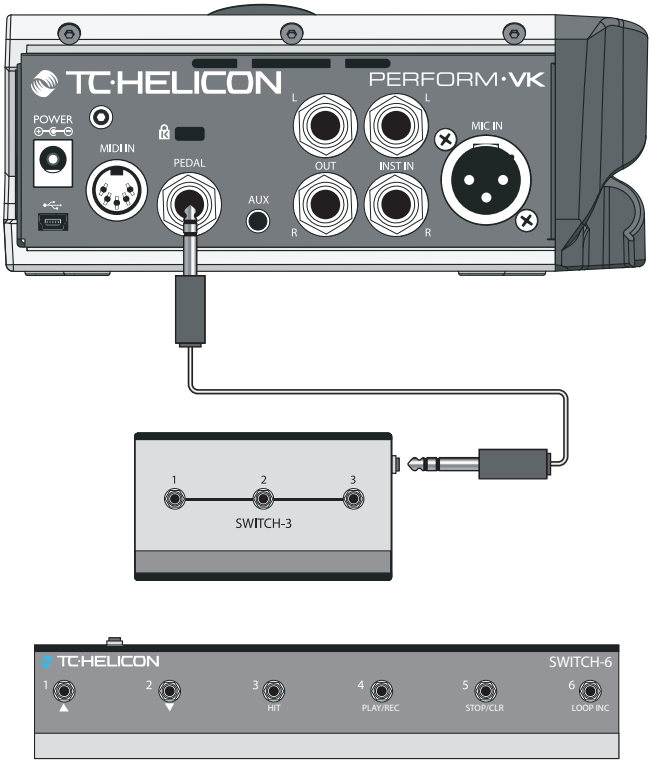
Sometimes, you'd like to have a signal from the Aux input guide key/scale, but you don't want that Aux signal mixed into your main outputs. If you'd like to remove audio from Aux to the main out, simply press/hold the Headphone button while connecting your Aux (⅛") cable.

This parameter resets each time you unplug and re-plug the Aux cable or if you power cycle the unit. We don't save this parameter because it's not immediately obvious how you'd "toggle" things and we don't want to trap unsuspecting users in a mode they can't find a way out of.

## Dimming the Buttons

The buttons on your PERFORM-VK are designed to be pretty darned bright so you can see them clearly in an outdoor environment. If you're playing inside, you may not want to tan yourself with their brilliance.

To dim/brighten the buttons, press and hold the SET button while turning the Control Knob. Turning the knob to the right increases brightness and turning to the left decreases brightness.



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### Switch3/Switch6 (Pedal) In

When a Switch3 or Switch6 is connected prior to powering on (using the TRS cable that came in the S3/S6 box) you can control various aspects of PERFORM-VK remotely.

The default behavior for Switch3 is to change presets according to the numbers on Switch3.

Switch1 = Preset 1

Switch2 = Preset 2

Switch3 = Preset 3

You can reassign any of the PERFORM-VK buttons to be activated by a footswitch, with the exception of TRIM, +48V, Headphone Level, and Lock/Mute (TALK is assignable).

Press and hold the desired footswitch, then press the button on PERFORM-VK that you'd like the switch to control. Release both buttons.

Switch6 acts in the same manner as Switch3 but adds buttons 4, 5, and 6. The default controls for the extra buttons are:

Switch4 = Harmony

Switch5 = Reverb

Switch6 = Echo

## USB Audio

There are 4 input and 8 output channels for USB audio in PERFORM-VK. A driver is required for both USB audio AND MIDI use. It can be found at tc-helicon.com/products/perform-vk/support/

**USB IN**

CH 1 Backing Track L

CH 2 Backing Track R

CH 3 Dry vocal in

CH 4 NaturalPlay IN

If no signal is transmitted to the product on USB audio channel 3, the product will use analog in for the voice input. So, you could use channels 1&2 to input stereo tracks from your DAW but sing into the product via your mic. Note that channel 1&2 input is NOT passed to the USB outputs, but IS passed to the Main analog outs. If you use a computer for backing tracks, they will get sent analog to the PA. Volume control for those tracks happens at the computer.

NaturalPlay IN is not connected to the audio output. It is used only for NaturalPlay chord input. This is intended to allow you to use a "guide track" for NatualPlay that you may not want heard in the mix. It could be dry guitar chords or piano chords, with different voicings or placement in order to create your desired harmony output.

**USB OUT**

CH 1 L processed vocal, Keyboard/ Aux in (same as what is on main outputs, less the audio received on USB in

CH 2 R processed vocal, Keyboard/ Aux in (same as what is on main outputs, less the audio received on USB in 2

CH 3 Dry Voice input

CH 4 Not used

CH 5 Dry INST IN R / Aux L

CH 6 Dry INST IN R / Aux R

CH 7 Harmony Voices L

CH 8 Harmony Voices R

## MIDI Implementation

PERFORM-VK responds to Control Change (CC), Program Change (PC) and MIDI Tempo (not MIDI Clock) information. To block incoming CC and PC messages, hold the Set button while powering on. **Note** data will still be accepted in this state.

For convenience, we have mapped many PERFORM-VK CC's to the Behringer UMA25s controller keyboard. The "UMA25s Mapping" column shows the button or control on the UMA25s related to each control.

### MIDI PC Messages

The product's 3 presets correspond to Program Change Bank 0: 125, 126, 127

### MIDI CC List

The following chart shows a list of all available control changes.

The MIDI channel can be set by holding the Set button and pressing a note on a connected MIDI keyboard. The MIDI channel on which this note was sent will be used as the MIDI receive channel.

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| Function | Controlled | CC# | MIDI Standard | Values | UMA25s Mapping | Notes | Bug Notes |
|---|---|---|---|---|---|---|---|
| | | | | | **Buttons** | | |
| Harmony | HitControl | 21 | undefined | 0-63 off; 64-127 on | e1 | preset | UI Harmony button |
| Delay | HitControl | 22 | undefined | 0-63 off; 64-127 on | e2 | preset | UI Echo button |
| Reverb | HitControl | 23 | undefined | 0-63 off; 64-127 on | e3 | preset | UI Reverb button |
| Double | HitControl | 24 | undefined | 0-63 off; 64-127 on | e4 | preset | — |
| Hardtune | HitControl | 25 | undefined | 0-63 off; 64-127 on | e5 | preset | — |
| Transducer | HitControl | 26 | undefined | 0-63 off; 64-127 on | e6 | preset | — |
| uMod | HitControl | 27 | undefined | 0-63 off; 64-127 on | e7 | preset | — |
| Hit | On/Off | 28 | undefined | 0-63 off; 64-127 on | e8 | preset | — |
| | | | | | **Rotary Knobs** | | |
| Harmony | Mix | 74 | brightness | — | e9 | preset | — |
| Delay | Level | 71 | timbre | — | e10 | preset | — |
| Reverb | Level | 73 | attack | — | e11 | preset | — |
| Doubling | Level | 75 | decay | — | e12 | preset | — |
| Reverb | Decay | 91 | reverb send | — | e14 | preset | — |
| uMod | Level | 93 | chorus send | — | e15 | preset | — |
| Delay | Feedback | 10 | pan | — | e16 | preset | — |
| | | | | | **Wheels, Slider, Pedals** | | |
| Harmony | PitchBend | PB | pitch bend | — | e17 Pitch Bend Wheel | volatile | affected by pitch bend range, set by RPN 0 |
| Harmony | Vibrato_Boost | 1 | mod wheel | — | e18 Mod Wheel | volatile | — |
| Notes | Sustain | 64 | sustain pedal | — | e20 Sustain Pedal | volatile | — |
| Harmony | Level | 11 | expression | — | e21 Expression Pedal | volatile | — |
| | | | | | **Not Default Mapped to UMA25S** | | |
| Harmony | Notes_Smoothing | 16 | general purpose 1 | — | — | volatile | — |
| Harmony | Notes_Gender | 17 | general purpose 2 | — | — | volatile | — |
| Harmony | Notes_Porta | 18 | general purpose 3 | — | — | volatile | — |
| Harmony | Attack | 29 | undefined | — | — | volatile | — |
| Harmony | Release | 31 | undefined | — | — | volatile | — |
| Harmony | HumanAmount | 76 | vibrato rate | — | — | volatile | — |
| Harmony | VibratoAmount | 77 | vibrato depth | — | — | volatile | — |
| Harmony | Hold_Release | 78 | vibrato delay | — | — | volatile | — |
| Harmony | Hold | 80 | general purpose 5 | 0-63 off; 64-127 on | — | volatile | — |
| Utility | Talk/Bypass | 81 | general purpose 6 | 0-63 off; 64-127 on | — | volatile | UI Talk Button |
| Hardtune | Shift | 85 | undefined | | | preset | |
| Transducer | Filter | 86 | undefined | — | — | preset | — |
| Double | HumanAmount | 87 | undefined | — | — | volatile | — |
| Mixer | OverallOutputAnalog | 102 | undefined | — | — | volatile | — |
| | | | | | **Special CCs** | | |
| — | bank select MSB | 0 | bank select MSB | — | — | — | programs use bank 0 only |
| — | bank select LSB | 32 | bank select LSB | — | — | — | — |
| — | data entry MSB | 6 | data entry MSB | — | — | — | RPN/NRPN data entry |
| — | data entry LSB | 38 | data entry LSB | — | — | — | — |
| — | data increment | 96 | data increment | — | — | — | — |
| — | data decrement | 97 | data decrement | — | — | — | — |
| — | NRPN LSB | 98 | NRPN LSB | — | — | — | — |
| — | NRPN MSB | 99 | NRPN MSB | — | — | — | — |
| — | RPN LSB | 100 | RPN LSB | — | — | — | — |
| — | RPN MSB | 101 | RPN MSB | — | — | — | — |
| — | All Sound Off | 120 | all sound off | — | — | — | — |
| — | All Notes Off | 123 | all notes off | — | — | — | — |

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### RPN/NRPN Implementation

RPN 0: Pitch Bend Sensitivity. This is a standard way to change pitch bend range.

### MIDI Tempo

Perform-VK responds to incoming MIDI tempo and will adjust system Tap Tempo accordingly.

### Split Point and Transpose

When controlling harmony via MIDI, in either Notes mode or NaturalPlay, it is sometimes desirable to have one section of the keyboard designated to sending that control information. It could be the area that your left hand is, to play chords of harmonies.

In order to designate an area of the keyboard to respond to, a Split Point is set. Any notes, either above or below the split point, are deemed useable by the system. Notes outside the range are rejected.

To set the Split Point, hold the SET button and press the note on your keyboard that you want to act as the split note. Then, to choose a split ABOVE that note, release the split note and press a note ONE SEMITONE ABOVE your split note. To choose a split BELOW, release the split note and press a note ONE SEMITONE BELOW your split note.

This creates a split, above or below, with no transposition. In order to set a split point AND transpose the incoming MIDI notes, you will choose a different note in place of the ABOVE/BELOW notes mentioned above.

It will seem a bit confusing, but does allow you to make both a split above/below point AND transpose either up or down. So, here's a chart and some explanation.

| Second Note | Split | Transpose X To |
|---|---|---|
| X+6 | Above | X5 |
| — | Above | — |
| X+2 | Above | X1 |
| X+1 | Above | X (no transpose) |
| X+0 | — | — |
| X-1 | Below | X (no transpose) |
| X-2 | Below | X6 |
| — | Below | — |
| X-6 | Below | X2 |

In the chart above, "X" is the split note, the point at which you want to split the keyboard, as explained previously.

To facilitate things like "split above, but transpose down" we need to have settings both above and below your split point. That's where the chart comes in.

For example, if you want to split ABOVE middle C, typically known as C4, but transpose DOWN so that C4 is actually C2, you'd do the following:

1. Hold SET
2. Press middle C (C4)
3. Press the note 6 SEMITONES DOWN from middle C (F#)

If you want to split BELOW middle C (C4) and transpose up so that C4 is C6, you'd:

1. Hold SET
2. Press middle C (C4)
3. Press the note 2 SEMITONES DOWN from middle C (A#)

You may need to experiment a bit to figure this out, but it does give you the ability to set your split point, split direction and transposition very quickly.

## Factory Reset

To reset the unit back to factory settings, press and hold the Echo and Harmony buttons while powering up.

## Support

If you've read through this manual and still need a little help, you can contact us via our support portal and forums http://support.tc-helicon.com

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